CLAIMS

What is claimed is:

1. A Voice-over-Internet Protocol (VoIP) system, comprising:

a network including at least two VoIP proxy servers configured to shift workload automatically and to allow voice data to be transmitted and received over the network; and

at least one VoIP client operatively coupled to the network to transmit and receive voice data over the network.

2. The VoIP system according to claim 1, wherein the at least one VoIP client connects to the first one of the at least two VoIP proxy servers determined to have a lower workload based on a predefined threshold in order to transmit and receive voice data.

3. The VoIP system according to claim 1, wherein one of the at least two VoIP proxy servers is a primary VoIP proxy server configured to shift workload automatically to the first one of the at least two VoIP proxy servers determined to have a lower workload based on a predefined priority relationship between the at least two VoIP proxy servers.

4. The VoIP system according to claim 3, wherein the primary VoIP proxy server provides the identity of the one of the at least two VoIP proxy servers with the workload below the predefined threshold to the at least one of VoIP client in response to a client request to connect from the at least one VoIP client.

5. The VoIP system according to claim 3, wherein the primary VoIP proxy server forwards the client request to connect to a next one of the at least two VoIP proxy servers in accordance with a predefined sequence.

6. The VoIP system according to claim 5, wherein one of the at least two VoIP proxy servers continues to forward the client request to connect to the next one of the at least two VoIP proxy servers in the predefined sequence continues until the client request is received by another one of the at least two VoIP proxy servers in the predefined sequence whose workload is determined to be below the predefined threshold and the at least one VoIP client connects to the another one of the at least two VoIP proxy servers whose workload is below the predefined threshold in order to transmit and receive voice data.

7. The VoIP system according to claim 6, wherein the another one of the at least two VoIP proxy servers whose workload is below the predefined threshold responds to the forwarded request to connect with an identity which is forwarded to the primary VoIP proxy server; and the primary VoIP proxy server provides the identity to the at least one VoIP client in order for the at least one VoIP client to connect to another one of the at least two VoIP proxy servers in order to transmit and receive voice data.

8. The VoIP system according to claim 5, wherein when a last one of the at least two VoIP proxy servers in the predefined sequence has a workload above the predefined threshold, the last one of the at least two VoIP proxy servers responds to the forwarded request to connect with a message to the primary VoIP proxy server that all VoIP proxy servers are above the predefined threshold and therefore are unable to handle the call; and wherein the primary VoIP proxy server responds to the client request to connect with a message indicating all the VoIP proxy servers are busy and are unable to handle a call at this time.

9. The VoIP system according to claim 1, wherein the network is composed of one or more networks selected from a proprietary network, a network of leased facilities, the Internet, an Intranet, a wide-area network (WAN), a local-area network (LAN), a virtual private network (VPN).

10. The VoIP system according to claim 1, further including the at least one VoIP client coupled to a gateway coupled to the network, wherein the gateway controls access to the network.

11. The VoIP system according to claim 9, wherein the gateway comprises one or more of a VoIP gateway, a VoIP PTSN gateway, a media gateway, a router and an H.323 gateway.

12. The VoIP system according to claim 1, wherein the at least one VoIP client comprises one or more of an IP phone, a plain old telephone system (POTS) phone, a cell phone, a satellite phone, a microphone, a computer video camera with a microphone and, a multi-media computer configured to transmit and receive voice data.

13. A method for balancing workload on a Voice-over-Internet Protocol (VoIP) system including at least one VoIP client coupled to a network including at least two VoIP proxy servers configured to shift workload automatically, comprising the steps of:

(a) transmitting a client request to connect to one of the at least two VoIP proxy servers;

(b) connecting to the first one of the at least two VoIP proxy servers determined to have a lower workload based on a predefined threshold in order to transmit and receive voice data.

14. The method of claim 13, wherein one of the at least two VoIP proxy servers is a primary VoIP proxy server configured to shift workload automatically and further including the step of;

(c) shifting workload automatically to the first one of the at least two VoIP proxy servers determined to have a lower workload based on a predefined priority relationship between the at least two VoIP proxy servers.

15. The method of claim 13, further including the step of;

(d) providing the identity of the one of the at least two VoIP proxy servers with the workload below the predefined threshold to the at least one of VoIP client in response to a client request to connect from the at least one VoIP client.

16. The method of claim 15, further including the step of;

(e) forwarding the client request to connect to a next one of the at least two VoIP proxy servers in accordance with a predefined sequence.

17. The method of claim 13, further including the step of;

(f) responding to the forwarded request to connect with a message to the primary VoIP proxy server that all VoIP proxy servers are above the predefined threshold and therefore are unable to handle the call.

18. The method of claim 13, further including the step of;

(f) transmitting and receiving voice and video data.

19. The method of claim 13, further including the step of responding to the client request to connect from the at least one VoIP client by the primary VoIP proxy server with the identity of one of the at least two VoIP proxy servers with a workload below the predefined threshold.